

Assignment 1

**(DMSIT 01)**

M.Sc. DEGREE EXAMINATION, DECEMBER 2020.

First Year

Information Technology

BASICS OF IT

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Explain about five representative business models of the digital age and three types of business pressures.
2. Discuss various classification of memory devices.
3. Explain about evaluation of programming languages.
4. Explain the features of LAN, WAN and MAN.
5. Write about evaluation of internet and operation of internet..
6. What are the components of computer based information system?
7. Write about Porter's five forces Model.
8. List down various input technologies.
9. Explain about ring and Mesh topologies.

Assignment 2

**(DMSIT 01)**

M.Sc. DEGREE EXAMINATION, DECEMBER 2020.

First Year

Information Technology

BASICS OF IT

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. State various logical data models.
  2. What is file system? What are the advantages and disadvantages of it.
  3. Write about various data transmission devices.
  4. Write short notes internet and intranet
  5. What is meant by business pressure?
  6. What are system software?
  7. What is joystick and track ball?
  8. What is WWW?
  9. What is data warehouse?
-

Assignment 1

**(DMSIT 02)**

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

COMPUTER NETWORKS

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. What is multiplexing? Explain different categories of multiplexing.
2. Explain about centralized and distributed access techniques in detail.
3. Discuss about circuit switching and packet switching in detail
4. Discuss various routing protocols.
5. Explain the network threats and encryption/decryption in detail.
6. State and explain different network components.
7. Briefly explain different encoding and decoding techniques.
8. Write about ring, mesh and bus network topologies with diagrams.
9. Write about CSMA/CD mechanism.

Assignment 2

**(DMSIT 02)**

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

COMPUTER NETWORKS

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Explain about transparent bridges.
  2. What is meant by hierarchal naming? Explain.
  3. Explain about multi cast routing process in brief.
  4. Describe different issues in IP security.
  5. Define parity check.
  6. What is Ethernet?
  7. Define static and dynamic routing.
  8. What is ALOHA?
  9. What is Addressing?
-

**(DMSIT 03)**

Assignment 1

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

COMPUTER ORGANIZATION

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Explain about structural and functional view of digital computer.
2. Explain PCI configuration of desktop system and server system.
3. Discuss how multiplication is done for floating point numbers with flow chart.
4. Explain about instruction cycle state diagram with interrupts and without interrupts.
5. How to organize the Central Processor Unit? Explain in detail.
6. Describe the evaluation of intel x86 architecture.
7. What are the applications of embedded systems?
8. Explain the different timing diagrams associated with buses.
9. What are the physical characteristics of magnetic disks?

Assignment 2

(DMSIT 03)

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

COMPUTER ORGANIZATION

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. What is meant by fixed point representation? Explain.
2. How addition and subtraction is done for decimal numbers?
3. Explain about instruction fetch, execute and I/O function.
4. What is meant by Define clock speed?
5. What is use cache memory?
6. What working principle of DVD?
7. What is an interrupt?
8. What is sign magnitude representation of integer?

—

Assignment 1

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

DATA STRUCTURES WITH C

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Write about algorithm development steps and also control structures with flow diagrams.
2. Explain about string pattern algorithm with example and also give any four string handling functions.
3. What is circular linked list? Implement different operations of circular linked lists.
4. (a) Discuss about AVL tree rotations with suitable examples.  
(b) Write a subroutine to delete a node from AVL tree.
5. Describe insertion sort algorithm and trace the steps of insertion sort for sorting the list- 12,19,33,26, 29, 35, 22, 37. Find the total number of comparisons made.
6. Explain about Abstract data model.
7. Write an algorithm to find maximum element of list of elements.
8. What is record? Give the representation of record in memory.
9. Write a program for performing Stack operations.

Assignment 2

**(DMSIT 04)**

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year  
Information Technology

DATA STRUCTURES WITH C

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Draw the BST for the given list of elements 46, 21, 56, 89, 9, 12.
  2. Write an algorithm for creating a heap.
  3. Write an algorithm to insert a node into a threaded binary tree.
  4. Briefly explain about hashing.
  5. Define Omega ( $\Omega$ ) notation of algorithm.
  6. Define De-queue.
  7. Give the applications of linked list.
  8. Define rehashing?
  9. Define B - tree.
-



**(DMSIT 05)**

Assignment 1

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year

OPERATING SYSTEMS

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. Explain evolution of operating systems and also mention operating system tasks.
2. Suppose that the following processes arrive for execution at the time indicated:

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

What is the average waiting and turnaround time for these processes with:

- (a) FCFS scheduling algorithm
  - (b) Preemptive SJF algorithm
  - (c) Non — Preemptive SJF algorithm
3. Explain about the file system architecture and functions of file systems.
  4. Explain the difference between External fragmentation and Internal fragmentation. How to solve the fragmentation problem using paging?
  5. Discuss different issue in hardware I/O organization.
  6. Describe essential properties of Real Time and distributed operating Systems
  7. With a neat sketch, explain the process state diagram.
  8. What are the semaphores? How do they implement mutual exclusion?
  9. What resources are used when a thread is created? How do they differ from those used when a process is created?

Assignment 2

**(DMSIT 05)**

M.Sc. DEGREE EXAMINATION,  
DECEMBER 2020.

First Year

OPERATING SYSTEMS

MAXIMUM MARKS: 30

ANSWER ALL QUESTIONS

1. What are the necessary conditions for deadlock?
  2. Explain about contiguous memory allocation.
  3. What is directory? What are the operations that can be performed on a directory?
  4. Write about different program threats.
  5. Define critical section.
  6. What is demand paging?
  7. Define virtual memory.
  8. Define overlays.
  9. What is meant by authentication?
-